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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,229	01/29/2001	Jun Abe	P 275670 SH-0023-US	8815

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PILLSBURY WINTHROP LLP  
1600 TYSONS BOULEVARD  
MCLEAN, VA 22102

EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/770,229	ABE ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 10-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

Claims 10-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper of 9 June 2003.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4,9 are rejected under 35 U.S.C. 102(b) as being anticipated by Berkey 4629485.

The method is disclosed at col. 8, lines 21-68 and col. 5, line 39. See figure 8 which shows the gradual decrease in the refractive index.

Claim 2: col. 8, line 50-54 discloses the control of the atmosphere. Although there is no mention of the sintering speed being controlled per se, by controlling the temperature, one inherently is controlling the speed. Alternatively, lines 49-50 discloses controlling the sintering to be uniform - thus the speed must also be uniform.

Claim 4 is inherently met. As indicated at page 9, lines 9-22, Applicant discloses that it is impossible to use the invention if the density is outside the claimed range. Since Berkey uses the invention, it must not be outside the range.

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Claim 9: See col. 8, line 30-32 of Berkey. The second to last pass would be "substantially" the same as pure quartz.

Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Berkey 5917109.

Figure 4 shows the core forming step. Col. 9, lines 50-55 discloses the forming of the clad around the core.

Getting back to the core forming step: col. 8, lines 15-20 discloses the claimed accumulating. The sintering in an atmosphere with the compound gas is disclosed at col. 8, lines 22-26. For the intention of creating a GI type refractive index profile core: see figure 7 and col. 9, lines 18-20.

Claim 9 : see col 8, line 45-57, especially 57.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 4629485.

Page 9, lines 3-5 of Applicant's specification discloses that the scope of "recognizing" the density includes using a predetermined process. It would have been

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obvious to the artisan using Berkey to repeat the method using the same parameters each time, so that one can make a uniform/identical process each time. One using the same parameters each time would recognize that the density would have been the same each time, alternatively one would recognize that the density would be "adequate." Alternatively, it would have been obvious that the artisan would have recognized that the density is less than "full" because the preform would not be transparent.

As to the steps of determining the gas content and sintering speed: it would have been obvious to perform routine experimentation to determine the optimal processing parameters. The setting of the parameters will inherently set the gas content and sintering speed.

IT is noted that the present specification does not set forth a single example as to how applicant recognizes the density or determines the gas content and sintering speed. Nor is there any indication as to what the claim language excludes.

Claim 7: Berkey discloses 4 mm/minute (col 6, line 41) - it would have been obvious to change the parameters so that one can increase the feed rate, so that one can sinter the preform faster.

Claims 1-5, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 4629485 in view of Kanamori 5055121.

See how Berkey is applied above. Berkey does not disclose monitoring the density. Col. 2, lines 18-19 of Kanamori disclose that the upper limit for easy addition of

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fluorine is no higher than 0.5 g/cc. It would have been obvious to one of ordinary skill to perform routine experimentation to determine the optimal density so that one can easily add fluorine, as disclosed by Kanamori. Alternatively, it is deemed that the 0.5 g/cc teaching of Kanamori informs the artisan of the usefulness of densities within the present claimed range of 0.15-0.4 of present claim 5.

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 5917109.

Claim 2: See above how Berkey meets claim 1's limitation. Col. 8, lines 22-26 discloses the controls of the gas content: alternatively, it would have been obvious to control it to be what Berkey discloses, because that is the easiest way to get the Berkey atmosphere conditions.

Berkey does not disclose the sintering speed (as defined by applicant) - see col. 8, lines 22-23 which broadly identifies the sintering, but gives no indication as to how to do it. Col 9, lines 23-45 discloses sintering by moving a soot body downward at 5 mm/min. It would have been obvious to use the col. 9 sintering process for the col. 8 sintering, because some sintering method is needed and for the advantage of being able to use the same furnace, and that the technician would only need to be proficient at one type of sintering method, i.e. zone sintering. It is noted that Berkey uses the same consolidation furnace - this suggests that the same sort of sintering is used. It is further noted that this obvious modification is not to suggest that the gases and/or

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temperatures should be identical in both sintering process, rather that zone sintering be used in each instance.

Claim 6: see col. 8, line 25: the gas concentration is approximately 5 vol. %

Claim 7: see col. 9, line 29.

### ***Allowable Subject Matter***

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

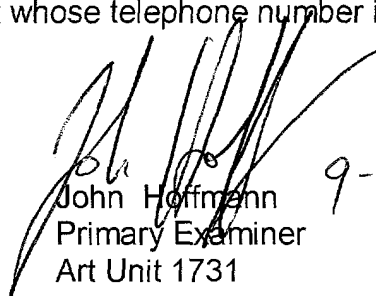
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Danzula(2), Tateda, Ohga, Deliso, Kyoto, Kawauchi, Kyoto and Ishiguro are cited as being relevant to the disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 703-308-1164. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

9-30-03

jmh